



SINCLAIR/TIMEX USERS MAGAZINE

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Volume II

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Number 10

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...and more!

Thank You

Welcome to our third issue of SUM! We wish to thank all of you for your support and for the subscriptions that we have received. We welcome any comments that you would like to send us regarding our format and contents or anything else about Sinclair/Timex products.

If you would like to share an interesting bit of information or a nifty program, send it in so we can publish it and pass it on to other users. We all need to stick together and help each other get the most out of our machines.

You may have noticed that there are two numbers to the right of your name on the mailing label. The top number is the expiration date, so if it says 1084, then you know that this is your last issue and that renewing your subscription is in order. The bottom number is your personal account number. If you have any questions about your subscription, please include this number.

If you are receiving more than one issue please notify us so we can adjust our records. If you feel that there is an error with your expiration date, please don't hesitate to notify us. We're still working on getting all the bugs out of the system.

You may be interested to know that SUM is written on a 2068 using Tasword Two and the Tasword interface driving a daisywheel printer. The subscriptions are also kept on a 2068 in a program I wrote specifically for that purpose.

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S U M

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c/o 3224 NW 30th Avenue
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EDITOR..... Joe Williamson

PUBLISHER..... Richard Cravy

CONTRIBUTING EDITORS

Al Mollitor Bill Woodward John Monkus

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Game Review

— BUGABOO —

BUGABOO is an arcade quality game for the TS2068 which has been converted from the Spectrum. It is, or is, one of the most computer games in England and is sold in the USA by Quicksilver for both the 2068 and the Commodore 64.

Bugaboo, we are informed, is a flea who falls down a hole into the depths of the earth. He is limited in his movements to diagonal left and right moves--which are produced by the "1" and "0" keys. The screen can be scrolled using the arrow keys. Bugaboo moves about in a three screen wide by three screen high chamber filled with ledges, cliffs, plants and spiders. And let's not forget the Pterodactyl -- the flying miniature dinosaur who suddenly swoops in & grabs Bugaboo to end the game unless our little lost flea can quickly hide under a ledge out of reach.

Upon loading, the game waits about 15 seconds for instructions; if none are given, a demo begins showing Bugaboo jumping about on the surface of the planet and then falling into the depths below. No scoring as such occurs--the goal being to escape. However, a timer is constantly running at the bottom of the screen as well as a "level indicator". The bottom of the hole is level 82, the surface 1. Bugaboo reaches the surface by jumping from ledge to ledge. This can be frustrating since missing a single ledge may well land you back on the bottom (remember the Pterodactyl).

The color and action is very good, and the game is almost as addictive for me as Pacman. With games like this, it is no wonder the Spectrum has been such a favorite in England. The 2068 version retails for \$24.95 and the Spectrum version sells for \$19.95 (we assume it will run on a 2068 with Spectrum rom). Quicksilver, Inc., 426 West Nakoma, San Antonio, TX 78216. Tell them you saw it in S.U.M.

-- Richard Cravy

ZX/TS Repair Guide — Part II

This is the second in a series of articles on how to repair your ZX81 and TS1000. I will also try to cover some of the problems found in the 1500 and 2068 as well in future articles.

From my experience with the ZX81 & TS1000, I would say that there are four common problems with this series. They are the infamous 'RAM pack wobble', keyboard ribbon cable cracking, loose ground strap, and 5 volt regulator over heating and failing. I have seen other problems crop up, but these are by far the most prevalent.

Probably the most aggravating thing that can happen is to have a real long program that you have been writing for the last six hours sitting there on the screen, you reach down, press a button and the computer goes wild, scrolling unknown characters up the screen, flashing and then finally, the terrorizing blank screen. You have gone beyond the realm of the computer's comprehension and into the twilight zone! In other words, the computer lost connection with its memory through a bad contact.

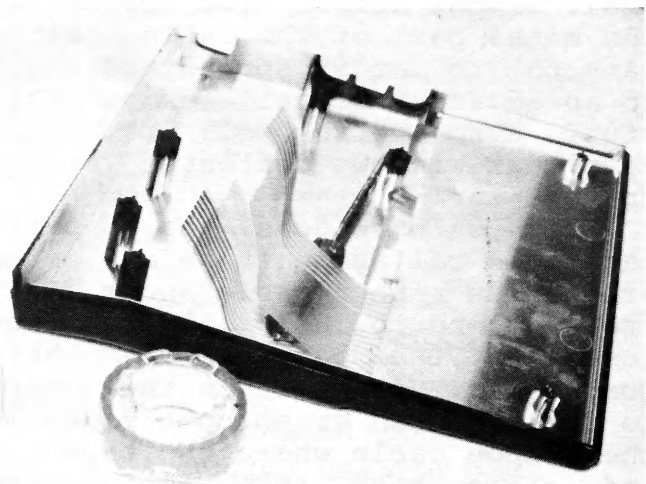
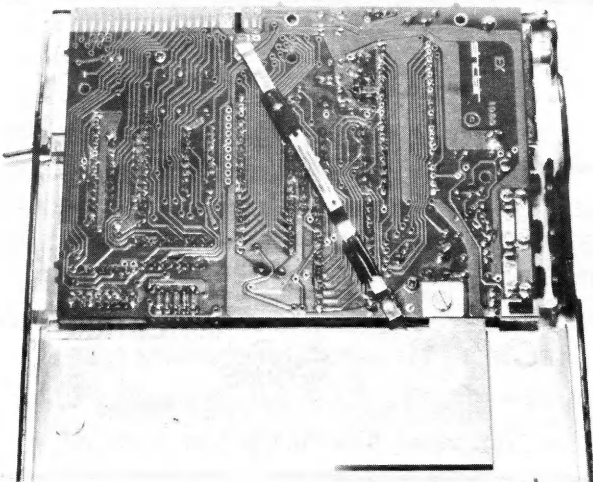
The problem stems from a design flaw. The computer has rubber feet on the bottom while the RAM pack sits directly on the table top. You press a key from the top, the

rubber feet give a little, the RAM pack does not and the connector between the two takes up the slack. Connectors, when they slide against each other have never been known to maintain a good connection, especially if there is dust or any other contaminant on the contacts.

There have been dozens of cures for solving this problem, the best that I have found are to clean the rear edge connector, put larger (taller) feet on the computer to raise the RAM pack off the table, and place a piece of velcro or double sided tape between the RAM pack and the rear of the computer.

When cleaning the rear edge connector, make sure the computer is turned off. Use cotton swabs and denatured alcohol, clean both top and bottom and dry off excess alcohol with a dry cotton swab. Also, try not to leave any cotton hairs behind on the connector. It is best not to try and clean the RAM pack connector so as to not damage any of the 'pins'.

If you have lost response from the computer when you press a key, you more than likely have a cracked ribbon cable. The most common keys to lose are keys 1-5. The laminate that the cable is made of becomes dry and brittle and eventually cracks. To repair this, you must go



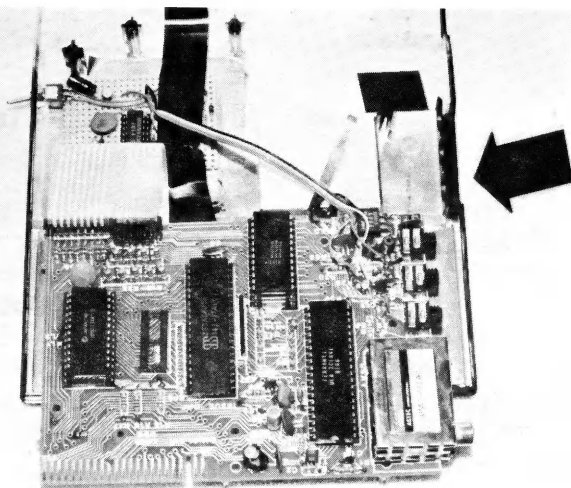
inside the computer and repair the break.

To disassemble the computer, disconnect everything from it, turn it over and remove the three rubber feet that are not near a screw hole. This should reveal five screws. Remove screws and bottom cover. You now should see the bottom (foil) side of the computer. Set the computer so that the power and tape jacks are on the right and unscrew the two small Phillips head screws. Now carefully and slowly lift up the board and rotate it towards you to expose the top side of the board and keyboard cable. The cable is short so the side closest to you will not come up very far, so rotate so that this side acts as the hinge.

Once you can get to the ribbon cables, you will note that there are actually two. Very carefully pull these one at a time out of the connectors on the board. The top should now separate from the circuit board.

The cracks should be very apparent. Generally, the crack is near the now loose end and can be repaired by simply cutting off the bad part with a pair of scissors. If you will have to cut off more than an inch, use copper or nickel print instead. Most electronics stores carry this for repairing cracked circuit boards and it works very well for repairing cracked ribbon cables. It comes in a small jar with an applicator brush in the lid. It's like paint. Simply dab a small amount across the crack in the metal part of the cable taking care not to let it spread and short to an adjacent metal strip. This stuff also works well repairing your rear window defroster strips in your car!

Once you have done the repair, take some cellophane tape and wrap around the ribbon cable about 1/4" from the end to help aid in re-inserting the cables into their connectors. Now position the board so that you can grasp both sides of the ribbon cable where the tape is and slide back into their res-



pective connectors. Reassemble the computer and check out.

The grounding strap on the foil side of the computer comes loose sometimes at the rear edge connector end and causes problems with interference on the screen and loading. Simply solder it back in place taking care not to let the strap touch any other solder lands.

The 5 volt regulator is mounted on a square flat piece of aluminum, and to the circuit board. This can sometimes overheat and cause the computer to crash after 15-30 minutes of use. If the screw and nut that holds this all together was not tightened well at the factory, tightening it may cure your problem, otherwise, replace it.

Sometimes, the power supply is putting out too much for the regulator to handle and replacing it will help. I have found that the Atari 2600 game replacement power supply works fine as long as you don't have any more than one or two

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peripherals connected to the rear. You will know when you have loaded it down too much when thick bands (hum bars) travel up the screen when you turn it on.

The only thing left to go wrong are the integrated circuit chips (ICs). With the computer opened up, you can see four IC's (five in the ZX81). The only two chips that I have seen go bad are the ULA and the RAM IC. If the ULA is bad, it usually gets very hot and no control is seen from the computer. If the RAM IC is bad, generally the cursor won't come up but the screen steadies. If you think that the RAM chip is bad and you have a 16K RAM pack, just remove the 2K RAM IC from the computer and try it with the 16K RAM pack. The computer does not need the 2K RAM chip when using the 16K RAM pack.

There are three different issues of the TS 1000 out there, so the layout may not be the same as that shown in the picture. To tell the chips apart, the ULA says ULA or Ferranti on it. The Z80 micro-processor chip is the other IC the same size as the ULA. The ROM is socketed and the RAM is soldered directly to the board.

To obtain parts for your computer, write to:

Timex Computer Corp.

Little Rock Product Service Center

Little Rock, AR 72203

You can also buy whole computers with minor defects from SYNTAX magazine, RD 2 Box 457, Harvard, MA

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01451 (617)456-3661 for \$15 each and from Electronics Supermarket, PO Box 988, Lynnfield, MA 01940 (617)532-2323 for \$18.88 each. This way you have all the replacement parts you may need.

Remember that you are dealing with sensitive components and make sure the computer is off before pulling the RAM pack or any other peripheral from the rear of the computer. Also, if you don't feel confident about soldering, ask a friend who can do it for you. This would be a difficult first project to tackle.

-- Joe Williamson

 *
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 * nized society when you pick *
 * up your calculator and try to *
 * change the channel on your TV *
 *

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TS1000/ZX81 SOFTWARE

The following programs all use a machine code generated spreadsheet format that makes them fast and reliable. It is suggested that a printer be used with the programs, but one is not required. All programs require 16K.

TAX RETURN ORGANIZER \$18.00

This package of four programs helps the individual tax payer organize his or her tax records. This package can be used year after year since it does not follow the ever changing tax forms. The programs ask questions which can be answered by referring to W-2 forms, interest statements, etc. Hardcopy should be kept as tax records.

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Maintain a listing of all your personal belongings. Keep track of all important data; serial numbers, original cost, dates, etc.

TEXTWRITER 1000 by Robert Fingerle \$11.95

Rated A+ in SYNC Jan/Feb 1984 issue. The best word processing package we have found for the TS1000 with a 32 column printer.

TS1000 SUPER TAPE by J. R. Coffey \$24.95

Rated 4 out of 4 by the Triangle Sinclair User's Group, April 1984 issue. 45 programs on one tape.

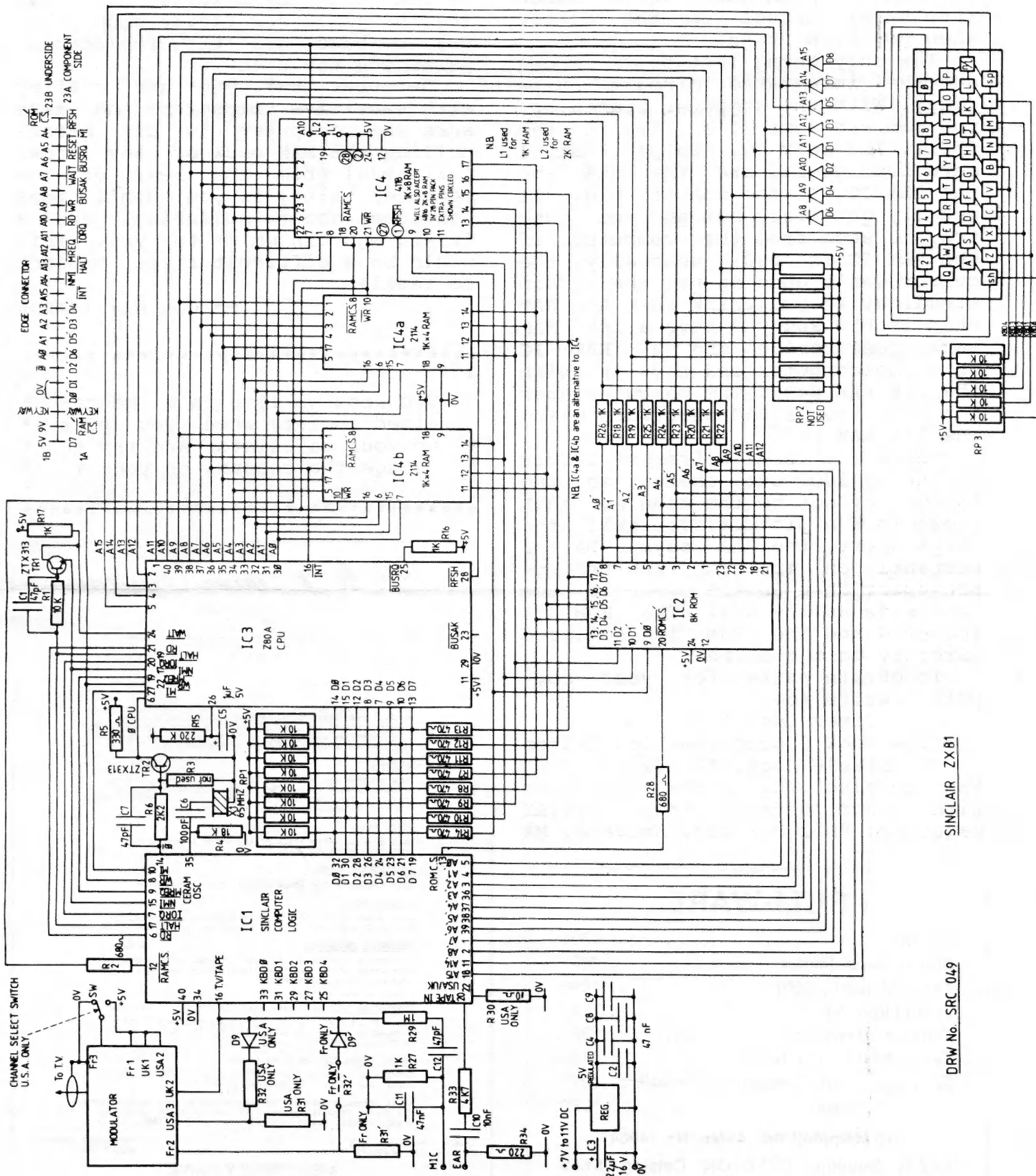
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Modem Tips

"TS 2050 Modem links you with a new world of opportunities" as an ad for Timex once stated, and its true! The Westridge 2050 Modem does link you with up to the minute information from just about everywhere. I know I get mesmerized staring at the screen communicating with a BBS or mainframe somewhere while my long distance phone bill creeps up at an alarming rate. Who says "long distance is cheaper than you think" anyway?? They obviously don't own a computer with modem.

Fortunately most of the work I do is local anyway, and The Source and Compuserve both have local numbers in larger cities - be sure

and check. If you have call waiting, you need to get rid of it or have another phone line installed.

When call waiting beeps on your line while using the modem, you can usually count on spurious characters or a crash. If you get locked up and have to turn off the computer to restart. Many times, depending on what type of system you are talking to, the host computer will not realize that you have left and go on waiting for you to send something. I have actually been cut off and dialed the mainframe back up and still be on line and in my account! I would hate to think what would have happened if someone else had dialed up in that time that I was off line.

The biggest problem that I have is seeing graphs on my 32 column display when the smallest display being sent is 64 column. Hopefully someone will come out with a modem program supporting the 64 column mode. I would even settle for 64 column printer output only.

Recently, while using a mainframe at the University of Florida, I discovered that there is no way to use caps lock, and all that the mainframe would accept is uppercase. To complicate matters, the system recognizes the 'break' command as a user abort command. So, while I type along on my 2068 holding the caps shift key down, I must remember to let up on the caps shift to space, otherwise I lose what I was doing. This would not occur on the 1000/1500 because they send Caps only.

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*NOTE: 2068 versions contain full color and sound.

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The modem really is a good addition to your computer, and it does work well, and people are using it and finding ways to get around some of these quirks.

Users in the Timex Sinclair Users Group of Cincinnati have found a way to use a large printer (must have bit-mapped graphics i.e. Seikosha GP-100/Gorilla Banana, Star Gemini 10x, STX-80) with the 2050 modem and the Aerco Interface.

The modem software makes a call at 54025 and 54026 to copy the screen to the Timex printer. The copy routine in the Aerco software resides at 64628. All that is needed is to change the original call for the copy routine to the one in the Aerco interface.

First, load the Aerco printer driver software and configure to your printer. When the menu comes up again, choose the load option and load the basic part of the modem software ONLY by pressing

break as soon as the "Program loading" appears on the screen and stop the tape. Now enter CLEAR 54015 and LOAD "aterm"CODE and restart the tape. Now add these lines to the basic modem loader program:

```

999 STOP
1000 POKE 54205,116
1010 POKE 54206,252
1020 POKE 64263,0
1030 POKE 64264,0
1040 POKE 64265,0
1050 RAND USR 64628
1060 SAVE "aterm" LINE 10
1070 SAVE "aterm" CODE 54016,8000
1080 SAVE "PRCODE"CODE 64256,1111
1190 STOP

```

After you have entered everything, place a blank tape in your tape recorder, set it to record and enter GOTO 1000 and follow the instructions at the bottom of the screen (there will be three saves, so don't wander off). You may want to rewind the tape and verify.

To try it out, TURN ON YOUR PRINTER FIRST - ALWAYS. Enter GOTO 10 to start the program and hit enter for the initialization header. Now press shift and 8 to get the lower screen menu and press P for a screen copy. If you forget to turn on your printer before you press P, the program will lock up, and you will have to turn off the computer and reload and hope that the host computer you were talking to knows you are gone.

I found that you must remove the case from around the modem connector in order to plug in the Aerco Interface (Its bigger than the opening allows). Due to the way that the modem rear connector is soldered, the Aerco Interface will go on crooked. Make sure that the connector is on as far as it will go and that nothing is shorting.

Thanks to the Timex Sinclair Users Group of Cincinnati for this great tip. They can be reached at 11 Funston Lane; Cincinnati, Ohio 45218.

-- Joe Williamson

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TS2068 SOFTWARE

The following programs all use a machine code generated spreadsheet format that makes them fast and reliable. It is suggested that a printer be used with the programs, but one is not required. For complete details on these programs please refer to the TS1000 section of this price list.

TAX RETURN ORGANIZER 2000	\$20.00
CHECKREC 2000	\$12.00
STOCK WATCH 2000	\$12.00
APPOINTMENT WATCH 2000	\$12.00
ADDRESS BOOK 2000	\$12.00
HOUSEHOLD INVENTORY 2000	\$12.00

TEXTWRITER 2000 by R. Fingerle \$18.95

A high capacity full color word processing program for the TS2068 and TS2040 printer. It is similar in design to the TEXTWRITER 1000, which has received excellent reviews in computer publications. The TW2000 includes all of the features of the TS2068; repeating keys, upper and lower case, audible prompts, fast text loading and saving, and a text capacity of 840 lines or about 450 words.

TEXTWRITER 2000 PLUS \$24.95

A program similar to the TEXTWRITER 2000 program above, but for use with the TS2068 and the Aerco Centronics interface.

THE GREAT GRAPHICS SHOW \$24.95

This package written by J. R. Coffey contains six excellent programs that will show off your TS2068 computer. Programs include: The Great Graphics Show, Touch Type Learning Package, Three Games Package, Hi-Res Lander, Oscilloscope, and Easy Editor. This package was rated 3 out of 4 by the Triangle Sinclair User's Group, 4/84 newsletter.

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— VIEWord —

VIEWord is the first in a series of software packages for the TS2068 being produced by Jim Clatfelter. It is to be followed by MAIList and BOOKeep. Considering the quality and simplicity of VIEWord, I am looking forward to these other two.

Considering the 32 character screen line that the 2068 provides, various word processors for this computer have taken different means to compensate. Tasword Two (SUM 8/84) redefines the character set so that 64 characters are visible on screen per line. M-Script (to be reviewed next month) uses the ultra hi-res graphics of the 2068 to give a real 64 character line. Another possibility is to incorporate a horizontal scroll which shows only 32 characters at a time but allows lines longer than 32; the screen then serves as a window on the text (as made popular on the Osborne

computer). This last method is also an option on Tasword Two. However, VIEWord uses none of these more sophisticated methods. Instead it begins by asking how long a line you wish to print out on your printer (32-64 characters). Then, as you enter your text, a tone begins to sound as you approach your right margin and no more entries are allowed once your line length is reached. Pressing ENTER moves you to the next printer line. A blank line is placed on screen between each line to be sent to the printer.

Each printer line is numbered as text is entered to it. Any editing requires specifying which line # you want to edit. This differs from others which allow "full-screen" editing, but probably makes little difference in editing once you get use to either system. Something more critical is compensating for deletions or additions to a line. Words are not automatically moved down or brought up from following lines to compensate for changes made on a given line. But the two editing functions, WRAP and SPLIT, allow accomplishing this manually.

Commands are all single character entries with logical symbols--i.e., 'i' for insert, 'm' for menu, etc. All commands are entered at the beginning of a new line. In addition, a wide variety of printer control codes may be entered in the text to allow full use of your dot matrix or other printer.

Probably the real strength of VIEWord is in printer control. Auto numbering of pages, # of lines per page, single or double spacing, and such is all very easily done.

Here are the "negatives" I see with VIEWord. The screen display method only allows a small amount of your text to be visible at once. Right justification is not allowed for (though manually adding spaces within a line would accomplish it). Adding or deleting text is easy, but compensating for the resulting longer or shorter lines is a little tedious using WRAP and SPLIT. Lines longer than 64 characters are not

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VIEWord's strengths are many. It is very easy to learn to use and the one key commands quickly learned. For those who have never used a word processor before, the 32 character line and line oriented editing will probably be no problem. The program has the Aerco interface software built in, and also allows output to the TS2040 printer. And the fact that two other packages will soon be introduced in this family using the same command structure will mean a lot to those who will use all three in a small business or for personal use. The documentation is not extensive (7 pages) but is clear and answers most questions. Lastly, the price is \$25 -- half or less of that of Tasword Two and M-Script.

For someone who wants a simple but versatile word processor, this may be the one for you. VIEWord is available from the author for \$25 postpaid: JIM CLATFELTER, 646 Corwin Avenue, Glendale, CA 91206.

-- Richard Cravy

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FOR SALE: Brand new TS2068 computer and 12" amber Sakata monitor. Computer never used. \$250 takes all. Contact Richard Cravy for more information at 904/378-1471 or 378-9000.

S. U. M.

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Users Group News

LAST MEETING: Our second anniversary meeting went off well with good displays of hard and software.

Glenn Causey brought down his disc drive system for his ZX81 and showed off its speed and how he uses it in his business for keeping track of granicular coating. He bought his Indescomp disc system from now defunct Sinclair Place.

Jim Clark showed off the voice synthesizer he built for his 2068. He used the phoneme voice chip out of his Mattel Intelelevision and connected it to the 2068 on his expansion board. He hooked it up and demonstrated how it worked. The first thing it said was "Computer talks"! Sounded great.

Bill Woodward demonstrated the programs he just got from England that require a 2068 with a Spectrum ROM installed. He had Paintbox, Hunterkiller, and Nowotnik Puzzle. Paintbox really gives those hi-res pictures you see in ZX Computing.

Bill Barton showed off Bugaboo from Quick Silva and handed out brochures listing other programs. An ad was shown where DAK Industries had bought out all the Gorilla Banana printers and were selling them off at \$129.

